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RHTG # 25,550 3321  
BOX # 50

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August 1, 1956

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NO. 3 OF 6 COPIES. SERIES a

CALCULATIONS ON BLUENOSE RELEASES

SYMBOL: ORR:EEES

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
1st Review - Date: <u>12-26-91</u>	Determination (Circle Number(s))
Authority: <input type="checkbox"/> ADC <input checked="" type="checkbox"/> D	1. Classification <u>Unclassified</u>
Name: <u>W. I. Gissel</u>	2. Classification <u>Unclassified</u> To: <u>DOO</u>
2nd Review - Date: <u>12-26-91</u>	3. Contains <u>Classified Information</u>
Authority: <u>ADD</u>	4. Coordinate: <u>DOO</u>
Name: <u>W. I. Gissel</u>	5. Classification <u>Unclassified</u>
	6. Classified Information Bracketed
	7. Other (Specify):

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☒ STILL CLASSIFIED  
☐ NOT REVIEWED; DOE NON-OR  
☐ NOT REVIEWED; OTHER AGENCY INFO  
☐ NOT REVIEWED; FOREIGN GOV'T INFO

Reference is made to your memorandum of May 15, 1956, same subject as above. As agreed during your visit here on June 5, 1956, reports on Bluenose releases at ORNL will be given on a quarterly basis rather than monthly, as requested in the referenced memorandum. Arrangements have been made through A. M. Weinberg for W. I. Gissel, ORNL, to calculate and report all significant releases at the Laboratory. These reports, to be issued for each quarter, will be forwarded to you as received.

As I indicated in our recent telephone conversation, I have been collecting data on all significant releases which have been made at ORNL during 1956, or during prior periods if not previously reported. I believe that all significant release data have now been collected, with the exception of a few Thorex runs. Dick Martin will gather the missing Thorex data and forward them as soon as possible. As indicated in our conversation, I am including raw data on Metal Recovery to expedite placing the information in your hands prior to my leaving Oak Ridge.

Bluenose Releases  
RESEARCH & DEVELOPMENT (GEN.)

Run No.	Date	KR-85 curies	Xe-131 curies	Xe-133 curies
61	7/21/55	1.3	74	1,120
62	9/1/55	15	119	28,900
63	10/6/55	16	150	39,000
64	1/19/56	17	160	42,000
65	3/26/56	40	175	26,700
66	5/12/56	21	167	36,600

Thorex Releases

Date	KR-85 curies	Xe-131 curies	Xe-133 curies
Apr 4-28/56	64	--	--
May 1-10/56	50	--	--
Jun 56	77	--	--

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RESTRICTED DATA

This document contains restricted data as defined in the Atomic Energy Act of 1954. Its transmittal or disclosure of its contents in any manner to unauthorized person is prohibited.

— DECLASSIFIED —		21 FEB 1977
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George M. Kavanagh

- 2 -

August 1, 1956

As noted above, the data on Thorex releases are not complete, and I am asking Dick Martin to fill in the data for all runs prior to the April 4 one listed above. I do not know for a certainty that previous runs occasioned significant releases, but this is probable in view of the numbers given above.

Metal Recovery Data

Date of Processing

Material

Jul 1 - Nov 24, 1955

60 tons of X-10 graphite reactor slugs containing 6 kg Pu. 58 tons discharged in 1950. 2 tons misc. unknown discharge dates.

December 1955

Central rod sections of 4 NRX elements. 160 lbs U containing 160 g Pu. Exact discharge date will be obtained from AECL. ORNL estimates 15-18 months cooling before processing.

January 1956

6 tons BNL graphite reactor slugs containing 3 kg Pu. (Average cooling time before processing estimated at 15 months).

Feb - May

2½ tons ANP graphite pile slugs containing 197 g Pu. Discharged in 1947.

May - June

Canadian UNH solution. No releases.

As you can see, the data which I have been given for Metal Recovery are very sketchy, and I suspect that somewhat more detailed information could be obtained by paying a visit to the Facility and inspecting their records. I will ask Dick Martin to do this also.

The last memorandum concerning Bluenose releases which you received was from W. J. Larkin, dated May 20, 1955. The estimated release for ARE operation was included in that memorandum. I believe that this memorandum covers every significant release since those reported in the May 20 memorandum or at least will do so when the remaining data on Thorex have been obtained. The one exception to this is the homogeneous reactor Experiment No. 1, which I do not believe occasioned any significant releases. By reference to report ORNL-1839, I find that throughout the total period of HRE operation (November 20, 1953, through March 4, 1954), a total of 0.1 gram-atom of U-235 was fissioned.

Distribution:

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DATE	8/5/56				